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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,326	08/29/2003	Anand A. Kekre	VRT0098US	1638

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CSA LLP
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EXAMINER

PHAM, KHANH B

ART UNIT	PAPER NUMBER
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2166

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/652,326	KEKRE, ANAND A.	
	Examiner	Art Unit	
	Khanh B. Pham	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-8,10,12-15,17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-8,10,12-15,17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 24, 2007 has been entered.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15, 17, 19-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims fail to place the invention squarely within one statutory class of invention. On page 14-15, [0051] of the instant specification, applicant has provided evidence that applicant intends the "medium" to include "transmission type media such as digital and analog communication links, as well as media storage and distribution system developed in the future". As such, the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim(s) is/are not statutory. Energy is not a series of steps or acts and thus is not a process. Energy

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is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefor not a composition of matter.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 1, 8, 15** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 8, 15 recite: "replicating second data to be written to said data volume of said second node to a data volume of a third node, wherein the second data is not replicated to the data volume of the third node in an order in which the second data is to be written to the data volume of the second node", which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. **Claim 8** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites: "**the second device is not configured** to replicate the second data to the data volume of the third node in an order in which the second data is written to the data volume of the second node" which render the claim indefinite because it does not particularly point out how the second device different from any other devices.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1, 3, 5-8, 10, 12-15, 17, 19-21 are rejected** under 35 U.S.C. 102(e) as being anticipated by Teloh et al. (US 2003/0014432 A1), hereinafter referred to as "Teloh".

As per claim 1, Teloh teaches a method of performing cascaded replication (See Fig. 9) comprising:

- “asynchronously replicating first data to be written to a data volume of a first node to a data volume of a second node, wherein the first data is replicated to the data volume of the second node in an order in which the first data is to be written to the data volume of the first node” at [0048], [0053];
- “replicating second data to be written to said data volume of said second node to a data volume of a third node, wherein the second data is not replicated to the data volume of the third node in an order in which the second data is to be written to the data volume of the second node” at [0046]-[0047], [0059].

As per claim 3, Teloh teaches a method of performing cascaded replication comprising:

- “asynchronously replicating data to be written to a data volume of a first node to a data volume of a second node” at [0042], [0048], [0059] and Fig. 9;
- “replicating data to be written to said data volume of said second node to a data volume of a third node” at [0059] and Fig. 9;
- “wherein “said replicating data to be written to said data volume of said second node comprises asynchronously replicating said data to be written to said data volume of said second node to said data volume of said third node” at [0048], [0059].

As per claim 5, Teloh teaches the method of claim 3, wherein, “said asynchronously replicating data to be written to said data volume of said first node

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comprises, asynchronously replicating data to be written to a data volume of a primary node to a data volume of an intermediate node; and said asynchronously replicating data to be written to said data volume of said second node comprises, asynchronously replicating data to be written to said data volume of said intermediate node to a data volume of a secondary node" at page 6, [0058] - [0059] and Fig. 9.

As per claim 6, Teloh teaches the method of claim 5, wherein "said asynchronously replicating data to be written to said data volume of said intermediate node comprises asynchronously replicating data to be written to said data volume of said intermediate node to a data volume of each of a plurality of secondary nodes" at page 6, [0058] - [0059] and Fig. 9.

As per claim 7, Teloh teaches the method of claim 3, wherein, "said asynchronously replicating data to be written to said data volume of said first node comprises asynchronously replicating data to be written to said data volume of said first node to said data volume of said second node using a first data link coupled between said first node and said second node; said asynchronously replicating data to be written to said data volume of said second node comprises asynchronously replicating data to be written to said data volume of said second node to said data volume of said third node using a second data link coupled between said second node and said third node; and said first data link has a higher bandwidth than said second data link" at page 6, [0058] - [0059] and Fig. 9.

Claims 8, 10, 12-14 recite an apparatus configured to perform the method as in claims 1, 3, 5-7, and therefore rejected by the same reasons.

Claims 15, 17, 19-21 recite a machine readable medium for performing the method as in claims 1-7, and therefore rejected by the same reasons.

Response to Arguments

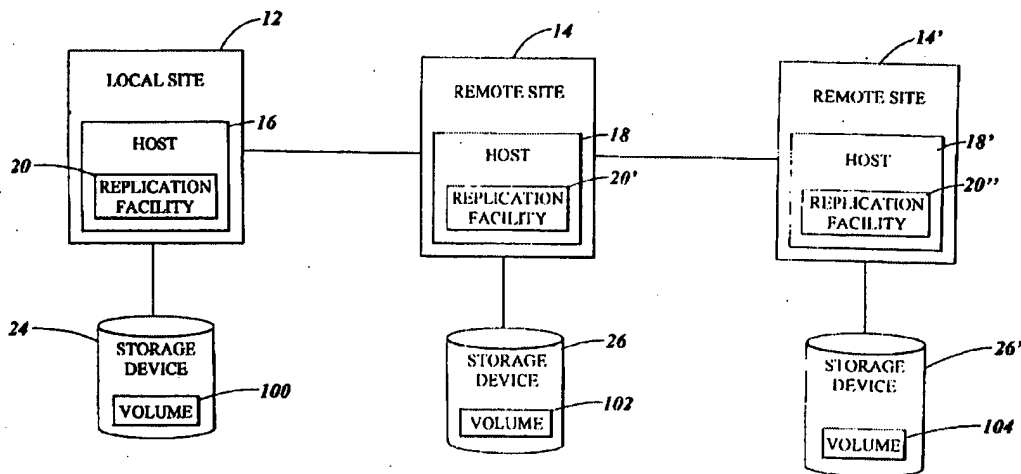
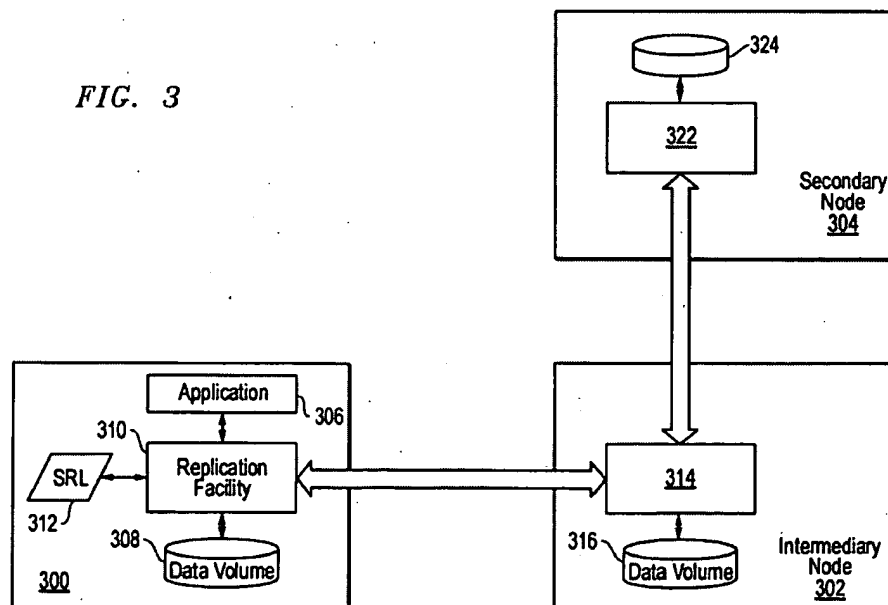
9. Applicant's arguments filed 1/24/2007 have been fully considered but they are not persuasive. The examiner respectfully traverses applicant's arguments.

Regarding claims 1, 8, 15, applicant argued that Teloh does not teach limitations added to the claims. On the contrary, Teloh teaches at [0048] an asynchronous data replication between local and remote sites. Teloh teaches at [0053] that asynchronous replication requires reserving write ordering. Teloh further teaches at [0046]-[0047] synchronous replication between two nodes where reserving write ordering is not required.

Regarding claim 3, Applicant argued that Teloh's Fig. 1 shows only two nodes 12 and 14 and therefore does not anticipate independent claim 3. The examiner respectfully submits that the Office Action rely on Fig. 9, not Fig. 1, in the rejection of claim 3. Teloh's Fig. 9 shows an identical system to applicant's Fig. 3. Teloh also

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teaches at [0048] the step of mirroring data from a host to a remote site utilizing asynchronous data replication.

Teloh's Fig. 9**FIG. 9****Applicant's Fig. 3.**

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In light of the foregoing arguments, the 35 U.S.C 102 rejection is hereby sustained.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the Claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record, listed on form PTO-892, and not relied upon, if any, is considered pertinent to applicant's disclosure.

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose telephone number is **(571) 272-3574** for faster service.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh B. Pham whose telephone number is (571) 272-4116. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Khanh B. Pham
Primary Examiner
Art Unit 2166



April 7, 2007